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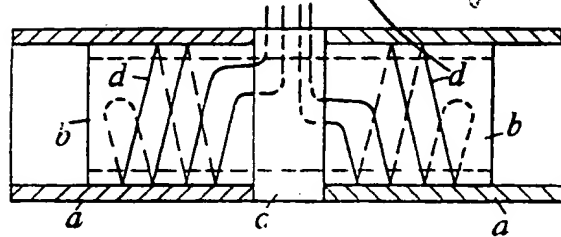


Fig.1

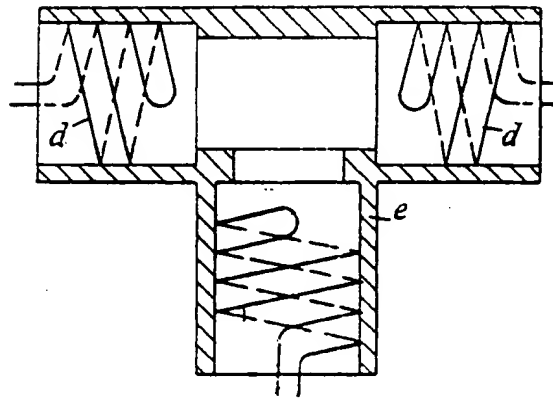


Fig.2

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COMMONWEALTH OF AUSTRALIA
PATENT SPECIFICATION

18, 197/56

Complete Specification Lodged 14th May, 1956.

Application Lodged (No. 18, 197/56) 14th May, 1956.

Applicant. Stewarts and Lloyds Limited.

Actual Inventor. Alfred Clift.

Convention Application.
(Great Britain, 16th June, 1955).

LAPSED BEFORE ACCEPTANCE.

Complete Specification Published 15th November, 1956.

Classification 96. 7; 74. 5.

Drawing attached.

COMPLETE SPECIFICATION.

"A METHOD OF UNITING BODIES MADE FROM THERMO-
PLASTIC MATERIAL."

The following statement is a full description of this invention, including the best method of performing it known to us:-

This invention has for its object to provide a simple and effective means for uniting bodies, such as for example pipes or sheets, made from thermoplastic material of the polyethylene type.

The method in accordance with the invention consists in combining an electrical resistance wire with the junction of the parts to be united, and effecting cohesion of the parts by electrical heating of the wire.

In the accompanying drawings Figures 1 and 2 illustrate two typical embodiments of the invention.

In one mode of applying the invention to the joining of the adjacent ends of a pair of thermoplastic pipes a there is employed a hollow thermoplastic spigot b having a central collar

c. Around each end part of the spigot is wrapped a looped helical coil d made from resistance wire, the ends of which are embedded in and extend outwardly through the collar. The resistance wire commonly called Eureka wire is suitable but other soft resistance wires can be employed. It is essential that the dimensions shall be such that the wire can be raised to the desired temperature by current derived from a low voltage battery, as for example a 2-12 volt battery. Round wire is preferred, and the wire may be moulded on to the outer surface of the spigot during the process of manufacture.

After the spigot has been inserted into the pipe ends, current is passed through the wires causing local fusion of both the spigot and the pipes, so effectively welding them together.

→ The wires serve also to effect mechanical reinforcement of the joint between the spigot and pipes.

Figure 2 illustrates an application of the invention to a tee-shaped sleeve fitting e for interconnecting three pipes, the fittings and pipes being made from thermoplastic material. In each branch of the fitting is contained a helical coil d as above described, its ends projecting beyond the ends of the branch. Jointing of the pipe ends inserted into the fitting is effected as above described by a heating current passed through the coils.

The invention is applicable in like manner to a variety of other analogous pipe joints. Thus when it is required to unite a pair of pipe ends of which one is inserted into the other a wire coil may be combined with either of them. Also the invention is applicable to the uniting of the overlapping parts of flat or other sheets made from thermoplastic material.

The Claims defining the invention are as follows:-

1. A method of uniting pipes or other bodies made from thermoplastic material, consisting in combining an electrical resistance wire with the junction of the parts to be united, and effecting cohesion of the parts by electrical heating of the wire. (16th June, 1955).

2. A thermoplastic spigot, socket or other fitting for attachment to a pipe or pipes having combined with it one or more coils of electrical resistance wire which on heating effects cohesion of the fitting and pipe or pipes. (16th June, 1955).

3. A thermoplastic pipe fitting having combined with it an electric heating wire coil or coils substantially as and for the purpose described, and as exemplified by Figure 1 or 2 of the accompanying drawings. (16th June, 1955).

OSBORN F. CARTWRIGHT.
Patent Attorney for Applicant.

References:

<u>Serial No.</u>	<u>Application No.</u>	<u>Classification.</u>
209,804	9290/55	47.7; 06.7; 74.5
143,567	15,658/47	03.2; 74.1; 06.7
134,418	9569/47	06.7; 47.7.

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